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# NPS Academic Policies & Practices Survey Report

Monterey, California: Naval Postgraduate School

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# NPS Academic Policies & Practices Survey Report

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## Introduction

The Naval Postgraduate School (NPS) maintains a constant commitment to high quality education and research that fulfills a unique need – that of graduate education relevant to the mission of the Navy and Department of Defense (DoD). The School has consistently monitored the DoD uniqueness and relevance, as well as other important qualities over the years.

As part of the Western Association of Schools and Colleges Senior College and University Commission (WSCUC) re-accreditation process, and as a follow-up to a similar study conducted in 2008, the *2016 Academic Policies Survey* was conducted to continue the systematic documentation of the special academic policies, processes and practices that exist within each of NPS' schools and academic departments. The survey asks for input from each department concerning practices in three broad academic areas:

- **Faculty Development:** What processes are in place to support and review faculty achievement?
- **Education Program Review:** What processes are in place to assure the quality and effectiveness of education programs?
- **Student Learning:** What processes are in place to document and improve learning achieved by students?

As part of the required WSCUC review process, this effort supports the self-study of NPS, broadly documenting how NPS operates and how effective education is achieved at NPS.

## Methodology

The survey consisted of nineteen open-ended questions, representing the three broad academic areas identified above. The specific questions asked were:

### ***Faculty Development***

1. **FACULTY ORIENTATION:** *Does your department have an orientation program, formal or informal, for newly hired faculty? What steps are taken to assist new faculty toward success upon arrival at NPS?*
2. **FACULTY MENTORING:** *Is there a formal or informal program of faculty mentoring within your department? Please describe.*
3. **FACULTY REVIEW:** *Beyond the NPS institutional Promotion and Tenure (P&T) process, does your department have any systematic processes for the review and evaluation of faculty accomplishments? Please describe.*

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4. **FACULTY ACTIVITIES:** All NPS faculty complete annual work plans, outlining planned activities for an upcoming year, and Faculty Activity Reports (FARs) summarizing accomplishments for the previous year. Beyond these two mechanisms, are there additional systematic processes by which your department tracks faculty work and accomplishments? Please describe.

5. **FACULTY DEVELOPMENT:** Please mention any other policies or processes, not mentioned above, that are practices in your department for supporting and assessing the success of your faculty.

## **Education Program Review**

6. **CURRICULUM REVIEWS:** NPS has a long-established process of formal, biennial curriculum reviews with sponsors. Beyond the formal curriculum review process, are your curricula reviewed (formally or informally) in consultation with curriculum sponsors or stakeholders?

7. **ACADEMIC REVIEWS:** NPS conducts a program of “Academic Program Reviews” (APRs), the purpose of which is to support and facilitate external “peer” review of NPS degree programs by qualified academics. Beyond APRs, does your department engage in any process, formal or informal, by which Academics external to your department have provided assessments or critiques of your programs?

8. **INTERNAL REVIEWS:** Do you also have periodic or ad hoc procedures for reviewing and adjusting the contents of your curricula internally, e.g. during annual course planning? If so please describe.

9. **DEPARTMENT CURRICULUM COMMITTEE:** Does your department have an acknowledged curriculum committee (or analogous group) whose purpose includes the review and/or initiation of academic programs or curricula?

10. **PROGRAM QUALITY DATA:** Apart from institution-level assessment processes (curriculum reviews, SOFs, capstone assessments) does your department regularly collect information (from students, alumni, faculty, sponsors, visitors, etc.) for the purpose of monitoring program quality? If so, please describe. How is this information used to validate or improve current programs?

11. **PROGRAM RATINGS:** Program ratings exist in various forms. There are program or school ratings that exist in the popular press (e.g., US News). Some professional societies assess and rate programs in their discipline. On occasion academic research studies conduct assessments or rating of schools or programs. Do you know of external assessments or ratings that are applicable to your department or programs? Please mention.

## **Student Learning**

12. **LEARNING OUTCOMES:** ESRs represent one form of program learning outcomes. Apart from ESRs, does your department have written learning outcomes for its degree programs? If so, please note the source (e.g., the requirements of external professional licensing or certification organizations)?

13. **OUTCOMES ASSESSMENT:** Does your department have written procedures for determining if students have achieved program learning outcomes? If so, briefly describe.

14. **TEACHING EFFECTIVENESS:** The NPS SOF process provides one indicator of teaching effectiveness. Beyond the SOFs, does your department engage in any systematic practices designed to appraise and/or improve teaching? (Examples might include classroom visits, review of course syllabi, peer review of teaching by colleagues, student surveys, etc.). Please describe.

15. **STUDENT FEEDBACK:** Please describe formal or informal mechanisms within your department designed to capture student feedback concerning their experience in their graduate program. (Examples might include student interviews either during the program or upon graduation, periodic student surveys, meetings with academic associates or program officers, etc.).

16. **COURSE JOURNALS:** A “Course Journal” refers to an organized collection of course materials (e.g., course outline, syllabus, schedule, list of assignments) assembled at the completion of a course that

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*provides a record of the course as taught. Are Course Journals, or other similar sets of course records, submitted and maintained in your department, and used for assessment?*

*17. THESIS/ CAPSTONE ASSESSMENT: NPS conducts the institutional process of capstone assessment. Does your department use the results for improvement of your academic programs? How is the quality of theses or capstone projects ensured? Please describe.*

*18. OTHER THESIS/ CAPSTONE ASSESSMENT: Beyond the institutional capstone assessment process, does your department have a systematic process that evaluates the quality and competencies demonstrated in theses or capstones? Please explain.*

*19. DISTANCE LEARNING ASSESSMENT: Is the process of evaluating student learning different for resident versus distance programs? If so, please describe how.*

The questions were nearly identical to those used on the 2008 survey, with the following exceptions:

- A 2008 question regarding program accreditation was dropped.
- Question 18 from 2016 regarding “other thesis/capstone assessment” was added.
- There were small wording revisions (clarifications) to a number of questions, but nothing substantively changing them.

The survey targeted input from Deans and Chairs of each NPS academic department; their input was solicited via email. They were given a two-week response period. The total number of academic departments surveyed was fourteen, representing four schools. All fourteen departments surveyed responded to all questions, resulting in a response rate in excess of one hundred percent (several incidences of multiple respondents from a single department). Each school and academic department represented in this study is listed below:

School	Academic Department
GSBPP	Business and Public Policy
GSEAS	Applied Mathematics
	Electrical & Computer Engineering
	Mechanical and Astronautical Engineering
	Meteorology
	Oceanography
	Physics
	Space Systems
	Systems Engineering
GSOIS	Computer Science
	Defense Analysis
	Information Sciences
	Operations Research/Operations Analysis
SIGS	National Security Affairs

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## Results

### Analysis

A content analysis of the survey data was performed in two steps. First, responses for each question were grouped into two categories: *Yes* or *No*. Based on the total number of responses per category, a percentage of total respondents was calculated for each. Second, recurring issues were identified among the respondents; however, given the small number of chairs/deans surveyed, most responses reflected the unique academic processes or operations of those departments. Response data are provided in Appendix A.

### Findings

An overall distribution of the three academic areas is represented in Table 1. The results were quite positive, and showed improvement over the previous survey.

Table 1: Overall Distribution of Academic Areas

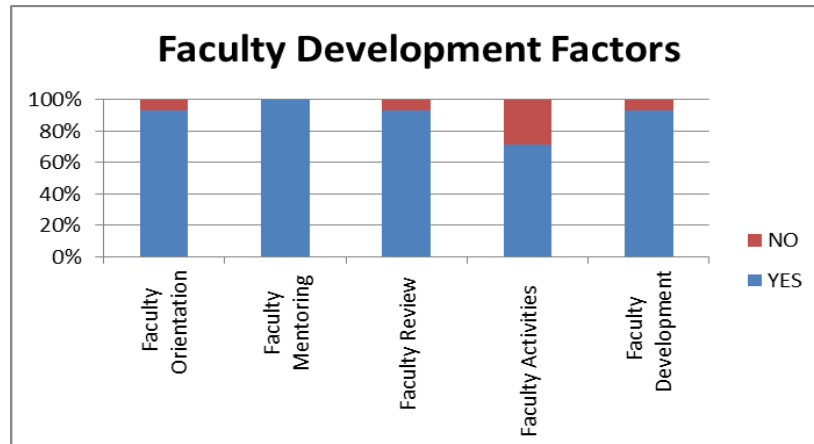
	<u>% Yes</u>	<u>% No</u>
<b>Faculty Development Factors</b>		
1. Faculty Orientation	93	7
2. Faculty Mentoring	100	0
3. Faculty Review	93	7
4. Faculty Activities	71	29
5. Faculty Development	93	7
<b>Education Program Review</b>		
6. Curriculum Reviews	79	21
7. Academic Reviews	57	43
8. Internal Reviews	93	7
9. Dept Curriculum Committee	93	7
10. Program Quality Data	100	0
11. Program Ratings	29	71
<b>Student Learning</b>		
12. Learning Outcomes	43	57
13. Outcomes Assessment	36	64
14. Teaching Effectiveness	100	0
15. Student Feedback	100	0
16. Course Journals	79	21
17. Thesis/Capstone Assessment	79	21
18. Other Thesis/Capstone Assessment	71	29
19. Distance Learning Assessment	93	7

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### Summary of the Survey Findings (organized by the three academic areas)

**Faculty Development:** What processes are in place to support and review faculty achievement?



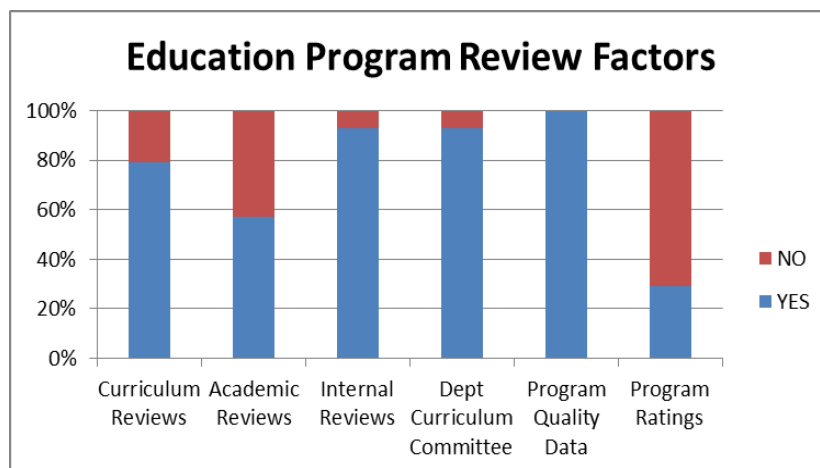
For all five factors that address *Faculty Development*, the majority of respondents indicate their departments have strong systems in place supporting faculty achievement. Most speak to well-established orientation programs, formal assignment of a mentor/mentoring committee, three-year tenure track reviews, and other faculty development methodologies. The only factor that shows a significant number of negative responses is, “Faculty Activities.” This question enquires whether departments have systematic processes beyond the two mandated activities—Faculty Activity Reports (FARs) and annual labor plans. The fact that four departments did not have additional processes is not necessarily a negative factor—to the contrary, the fact that ten departments did have additional mechanisms is quite positive.

All Faculty Development Factors, with the exception of, “Faculty Activities,” showed improvement since the previous survey in 2008, with the most significant improvements occurring in the “Faculty Development” question, where more departments have innovated measures beyond institutional level mechanisms to support and assess faculty success. Faculty mentoring has remained a definite strength throughout the campus. In “Faculty Activities,” the progress of the FARs and annual work plans is in evidence as fewer departments are having to utilize mechanisms beyond them to track faculty work and accomplishment.

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**Education Program Review:** What processes are in place to ensure the quality and effectiveness of education programs?



The trend among all six *Education Program Review* factors is mostly consistent to positive since the 2008 survey. The compilation of program quality data as well as the operation of curriculum committees and internal review processes are strong points of the majority of departments. The factors which questioned the curriculum review and academic review processes enquired as to whether the department had processes outside those two well-established review processes. Most did, so the departments that answered negatively were not saying that they did not fully invest in the required reviews, but only that they did not employ additional curriculum review or academic review measures. The notable exceptions to the positive trend are, “Program Ratings” and “Curriculum Reviews.”

The “Program Ratings” category highlights an area for further consideration. Seventy-one percent of the departments surveyed indicated that they did not have any external school or program ratings in the popular press or by a professional society. Such ratings add authority and prestige to a university’s programs, and are useful in recruiting students and faculty, obtaining funding, etc. so may be worth pursuing.

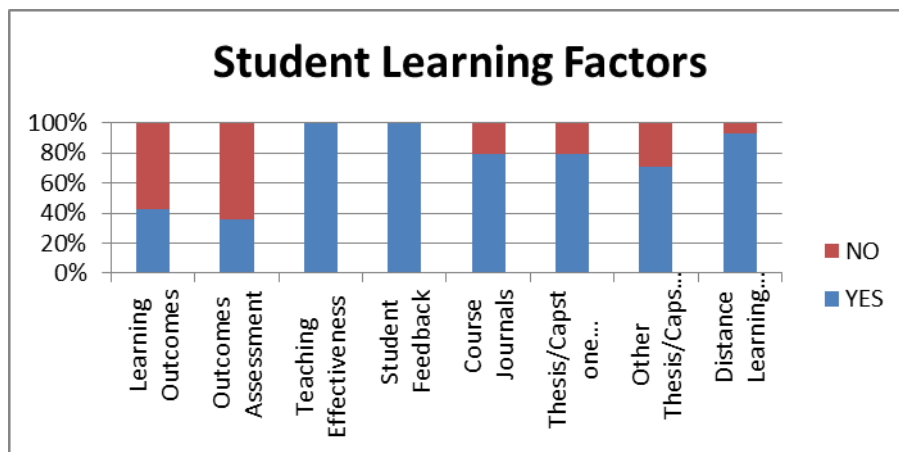
The 2008 question on curriculum reviews focused on whether the well-established curriculum review process covered all of the degrees, curricula and programs in the department, and asked how often and by what means the curricula are reviewed in consultation with sponsors and stakeholders. The 2016 question had a slightly different focus, asking whether, “...Beyond the formal curriculum review process, are your curricula reviewed...in consultation with curriculum sponsors or stakeholders.” So, in 2008, a “yes” response meant that the curriculum review process was fully utilized and effective. In 2016, a “yes” response indicated that a department employed mechanisms

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outside the curriculum review process. So the negative trend in the “Curriculum Review” factor is likely due to the rewording of the survey question and may reflect the continuing strength of NPS’ curriculum review program and a lesser dependence on outside mechanisms for review.

**Student Learning:** What processes do you have in place designed to document and improve learning achieved by students?



The *Student Learning Factors* demonstrate some consistency as well as trends in both directions. The factors for “Student Feedback,” “Teaching Effectiveness” and “Course Journals” were evaluated by the departments as being relatively consistent with performance from 2008. “Student Feedback” and “Teaching Effectiveness” were particular strengths in both surveys, while “Course Journals,” as in 2008, still require more universal application.

The “Learning Outcomes” factor asks what measures beyond Educational Skills Requirements (ESRs) are employed to identify learning outcomes. As in previous factors, the fact that nearly half of the departments did have additional measures is a positive which is more significant than the fact that the other half did not, since there is no requirement to employ measures outside ESRs. Similarly, the “Distance Learning Assessment” factor asks only whether the process of evaluating student learning differs between resident and distance programs, so a negative response does not specifically indicate a weakness.

The “Outcomes Assessment” factor identifies an area for further study. Sixty-four percent of the departments surveyed did not have written procedures for determining whether students have achieved program learning outcomes, which is a significant decrease from 2008, when 64% of the respondents did have such procedures.



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In 2008, 100% of the departments surveyed noted that they utilized the results of theses and capstone assessments for program improvement. In 2016, only 79% did so. This seeming decrease may be due in part to a slight reordering of the question. In 2008, the question asked how the quality of theses/capstones was ensured, whether there was a process that evaluated the quality of those studies and whether there are written procedures. In 2016, the question was slightly reworded to ask first whether the results of capstone assessment were used for improvement of programs and second how the quality of the projects was ensured. In 2008, a simple “yes” answer was not possible, as the respondent had to describe *how* quality is ensured to answer the question. Therefore, 100% of the respondents did somehow ensure quality in their theses/capstone projects and were therefore able to answer. The 2008 analysis noted, “All have a ‘checks and balances’ system, but some describe a more comprehensive process (9) vs. a simple description, i.e., ‘the chair reads all theses.’”

In 2016, respondents could answer “yes” or “no” to whether the results were used for program improvement and 79% answered “yes” in some form. However, all addressed the issue of how the quality of theses/capstones was ensured, just as they had in 2008. So while the comparison may not be revealing in itself, this may be an area for further analysis based solely on the 21% of the respondents in 2016 who do not use the results of theses and capstone assessments for program improvement.

### Conclusions and Recommendations

The *June 2016 Academic Policies Survey* compiled input from NPS’ academic departments regarding faculty development, education program review and student learning. The academic components of the survey consisted of nineteen questions. The purpose of this effort was to document and examine the academic policies, processes and practices necessary for continued educational program development, for accountability, process improvement and accreditation. Overall, 100% of respondents cited evidence of effective organizational structures and processes.

#### Faculty Development – *No Further Action Recommended*

Analysis showed strength among all NPS academic departments. All have processes in place to support and review faculty achievement in all five factors measuring this area.

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### Education Program Review – An Area for Further Consideration

The majority of factors for this academic area show no weakness requiring resolution.

Findings of two factors from this area are reflective of NPS review processes.

- While establishment and maintenance of program accreditation is not a requirement for many academic programs, some individual academic degree programs do have separate accreditation by ABET, NASPAA and AACSB and several Information Assurance courses are accredited by the Committee on National Security Systems (CNSS) for awarding National Security Telecommunications and Information Systems Security Committee (NSTISSC) certificates upon completion.
- Attainment of program ratings is not as well-established at NPS as are the accreditation programs, largely due to NPS' DoD and military focus being unique among universities. However, when NPS does get compared to other top universities, NPS compares very favorably. The Computer Science program is rated by US News and World Report (USNWR) as being within the top 75 universities nationally; the Cyber curriculum is recognized by the NSA as a center of excellence; GSBPP has been rated in the top 50 among schools of Public Affairs by USNWR; the OR department was ranked #2 in the nation for visibility and #1 for yield; and the SE department has been ranked by the USNWR as being in the top 25 Industrial, Manufacturing and Systems Engineering programs nationwide. This analysis recommends an increased emphasis on seeking out opportunities to achieve national ranking.

### Student Learning – Action Indicated

Sixty-four percent of the departments surveyed do not have written procedures for determining if students have achieved program learning outcomes. This is a potential weakness. To show improvement in this area, all departments should be advised of a requirement for maintaining written procedures, with results assessed during curriculum reviews. Similarly, the requirement for maintenance of "Course Journals" should be reinforced and adhered to, as it is mandated in the Faculty Handbook.

## Appendix A

	DEPT	SURVEY ITEM RESPONSE
<b>FACULTY DEVELOPMENT</b>		
<b>1. FACULTY ORIENTATION:</b>  <i>Does your department have an orientation program, formal or informal, for newly hired faculty? What steps are taken to assist new faculty toward success upon arrival at NPS?</i>	<b>CS</b>	Yes. We direct faculty to the NPS orientation. We assign a senior faculty mentor for each new faculty and ask the two of them to frequently discuss academic and NPS ways.
	<b>DA</b>	Yes. New faculty members receive a formal briefing on the department and meet with the department chair who personally introduces the new members to our existing faculty. They also attend (with new students) a faculty orientation where they get to hear about each other's research interests. They also receive briefs on our sponsors.
	<b>ECE</b>	Each faculty member not yet tenured or promoted has an appointed Mentoring Committee.
	<b>GSBPP</b>	GSBPP provides a checklist and arranges appointments for orientation for newly hired faculty to the various NPS staff directorates, library, IT services, security, etc. New faculty members are guided by the Area Chairs for their discipline, as well as through their Academic Associates and Course Coordinators for the courses they teach. Teaching Effectiveness Policy addresses New Faculty Orientation (re teaching). All new faculty are assigned a "host" upon hiring, and transition to a "mentor" of their own choice at the six-month point. NPS holds COMPASS for all new faculty. RIP supports new TT faculty research opportunities.
	<b>IS</b>	When we hire a new professor or lecturer, we provide informal guidance over and above the standard HRO and security indoctrination. The purpose of our informal guidance is to orient the new hire to our unique student body and their military focus. We assign mentors for assistant and associate profs in order to explain the processes and procedures for achieving success at the school and in our department. We have had a number of lecturers hired within the last few years but have no formal departmental mentoring program for non-tenure track hires.
	<b>MA</b>	New faculty have always been introduced to the department faculty and administrative staff, all of whom participate at least informally in the orientation process. The chair takes responsibility of assigning mentors and ensuring that the faculty member attends orientation briefs given for new hires, subject to availability.
	<b>MAE</b>	New faculty is assigned a mentoring committee to assist with their integration into NPS. Research Initiation Program for TT faculty
	<b>MR</b>	Informal orientation consists of meeting with Chair and other faculty to understand the procedures and processes at NPS. Faculty are introduced to lab staff and office staff with whom they will work.
	<b>NSA</b>	Yes, a formal welcome aboard/onboarding program managed by the Associate Chair for instruction. The program includes an extensive welcome aboard checklist and gouge sheet directing new faculty to other sources of advice and assistance throughout the campus.
	<b>OC</b>	Informal orientation program with a mentor for the new member to assist the new member.
	<b>OR/OA</b>	We do not have a formal orientation program. We find most new faculty are good "self-starters" but the senior faculty (including the mentor) often help out by arranging joint research with senior faculty and providing advice and materials for the classroom.
	<b>PH</b>	Yes. New faculty are provided copies of the Faculty Handbook, and

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		the Chair reviews performance expectations consistent with their position. A mentor is also assigned to each new tenure-track faculty.
	SE	Yes. We assign faculty to mentors. Faculty also meets with the chair periodically. Additionally, all our faculty went to the NPS orientation for new employees.
	SPACE	Informal. New faculty audit courses before being expected to teach a course on their own.
<b>2. FACULTY MENTORING:</b>  <i>Is there a formal or informal program of faculty mentoring within your department? Please describe.</i>	CS	Yes. We assign a senior faculty mentor for each new faculty member.
	DA	Yes. New faculty members are assigned a senior member for mentoring, but there is also a strong informal process due to the inclusive culture of the department. Each new faculty member is expected to attend NPS-wide training seminars.
	ECE	Yes, see 2 above. Every other year mentoring reports are prepared and faculty members are counseled. In addition, faculty members are counseled as needed.
	GSBPP	GSBPP has a formal written policy on mentoring as part of its policy on P&T-related process. This policy covers assignment of mentors and mentor duties, enabling faculty of all ranks to receive guidance and feedback on their professional development.
	IS	Our faculty mentoring is formal. The assistant and associate professors were assigned mentors. The lecturers were informally mentored but most were masters students within the program previously and know how the system works.
	MA	Mentors are assigned to assist new hires in learning the ropes (and the culture) in teaching and research. There is no formal procedure involved, although mentors of untenured faculty members report annually to the department chair.
	MAE	- Semi-Formal process. Committee is formed and meets with the new faculty member at least annually. Chair + Senior faculty review after 3 years. - Yes. Each new faculty member has a mentor.
	MR	A more senior faculty member is assigned to mentor new faculty about: 1) classroom and teaching expectations; 2) funding and research process and expectations; and 3) expectations for NPS and external service. Mentor is supposed to meet annually with new faculty.
	NSA	We have a formal mentoring process along different stages: 1) In year one, the Chair meets with new faculty to discuss tenure requirements and strategies for success along three dimensions: teaching, publishing, and service. Chair and others also help with RIP guidance, and 2) After the first two years, the department has an "Annual Committee for the Review of Tenure-Track faculty." This committee asks the faculty to submit to committee and peer evaluation to assess their progress in the areas of research publications, teaching excellence and service. This is done up to the year preceding the tenure decision. In addition, there is an informal mentoring program by which we encourage junior faculty to seek out their peers and senior faculty for advice and support. In the past, we assigned mentors, but I believe this is an inconsistent practice because it could actually backfire when the mentor and mentored do not see eye-to-eye.

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	<b>OC</b>	Formal program of faculty mentoring with annual report of mentor given to dept. faculty reviewing the faculty member with suggestions for improvements for the next year and hard looks at possible success for promotion and tenure.
	<b>OR/OA</b>	We have a formal mentoring program. Every new faculty member is assigned a tenured faculty member as a mentor Exactly what the mentoring entails is up to the mentor and mentee but typically involves getting together periodically to evaluate how the mentee is on track in his or her career.
	<b>PH</b>	Yes. We assign tenure-track faculty a mentor from the tenured faculty.
	<b>SE</b>	Yes. Semi-annual counseling by chair for TT faculty, annual for others.
	<b>SPACE</b>	Most members have joint appointments with a home department. Mentoring is done in connection with home departments.
<b>3. FACULTY REVIEW:</b>  <i>Beyond the NPS institutional Promotion and Tenure (P&amp;T) process, does your department have any systematic processes for the review and evaluation of faculty accomplishments? Please describe.</i>	<b>CS</b>	Yes. In addition to the Faculty Activity Report (FAR) process, we maintain a set of yearly goals for each faculty member, recorded on their annual performance appraisal forms. The chair meets with each faculty member at appraisal time and discusses which goals were met and what contingencies came up; they set new goals for the upcoming year.
	<b>DA</b>	The department abides by the P&T process with a rigorous 3-year review for members on the tenure track. The chair uses NPS SOF scores and feedback from the students as one of several measurement tools. The chair monitors the progress of each faculty member and meets with them individually throughout the year to assess their progress.
	<b>ECE</b>	Information provided in the annual Faculty Activity Report is compiled to obtain an overall picture of a given faculty member's performance relative to his/her colleagues. This information is used to make annual pay step decisions. In addition, ECE has an Awards committee that considers both Staff and Faculty for Awards. Faculty awards are in the areas of teaching, research, and service. Awards can be either monetary or time-off or both.
	<b>GSBPP</b>	GSBPP has formal policies describing periodic reviews for both tenure and nontenure track faculty members. Tenure track members receive 18-month and 3-year reviews prior to entering the institutional P&T process. NTT faculty members receive reviews every 3 years. The annual Faculty Activity Reports (FARs) provide a means for Chairs and the Dean to review and evaluate performance every year on paystep increase and special act awards.
	<b>IS</b>	We conduct a three year review for tenure track professors. A three person DEC reviews their performance in terms of publications, teaching, service, and research funding productivity. The department chair reviews all faculties each year for step increases. The lecturers are reviewed in terms of teaching evaluations (i.e., SOFs) and in terms of student exit interviews. Those instructors and professors that are consistently in the bottom three rankings for the graduating students (per the exit interview results) are counseled and given an opportunity to improve. Failure to improve after three graduating class exit interview sessions may result in termination of the lecturer's contract by the department chair. Tenured professors are also

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		counseled to improve or face the possibility of being removed from teaching responsibilities.
	<b>MA</b>	Tenure-track faculty members are reviewed annually, with special attention at the third-year review to ensure that they are on track. Beyond this, the FAR, quarterly workload reports, and SOFs provide additional information to the chair.
	<b>MAE</b>	Annually done by chair. Faculty Activity Reports are submitted by each faculty member. Senior Council (tenured full Professors). Meet once a year to review other faculty performance.
	<b>MR</b>	The Faculty Activity Report is the primary tool by which the Chair reviews and evaluates faculty performance. SOF's and any other informal feedback from students are reviewed quarterly then discussed with individual if problems are noted. Informally the Chair meets with faculty throughout the year concerning their research and teaching accomplishments.
	<b>NSA</b>	Yes. The department Chair regularly requests input from faculty on their publications, awards, and other accomplishments, and recognizes high achievers in a number of ways, including at the quarterly department meeting. Accomplishments are also noted on the department web page, which has been completely redone to allow for more regular updates and recognition. Also, the FAR process is systematic and feeds directly into decisions about step increases and special act awards.
	<b>OC</b>	Each year we have meetings in the spring to review and evaluate faculty. The dept. looks at the teaching and research performance and talks about how the faculty member can improve if necessary. Based on the annual Faculty Activity Report, the Chair decides on the annual pay step actions. Reappointments, although suggested by the Chair to the Dean and Provost, are done with the consensus of the faculty.
	<b>OR/OA</b>	No, the FAR process provides a great deal of information
	<b>PH</b>	The Chair awards pay step increases based on faculty performance. If budgets allow, some small awards may also be provided.
	<b>SE</b>	Yes. We conduct a formal 3-year review of faculty using the NPS P&T criteria. Faculty FARs are annotated annually, and feedback presented in person to each.
	<b>SPACE</b>	Informal.
<b>4. FACULTY ACTIVITIES:</b> <i>All NPS faculty complete annual work plans, outlining planned activities for an upcoming year, and Faculty Activity Reports (FARs) summarizing</i>	<b>CS</b>	Yes. We maintain a labor plan for the department updated as needed by the individual faculty members. We recognize faculty achievements at faculty meetings and with general email distributions.
	<b>DA</b>	The department collects Quarterly Faculty Reports which serve as a validation of both the FAR and the annual work plans. The chair also tracks faculty activities through the preparation of the department budget and the quarterly updates on direct and reimbursable work.
	<b>ECE</b>	There are no formal processes beyond SOFs and FARs. However, a record is kept of notable faculty accomplishments and activities that occur along the way during each year, and an Awards Committee, mentioned in 3 above, considers both faculty and staff for both monetary and time-off awards.
	<b>GSBPP</b>	Chairs and the Dean have access to student opinion form (SOF) and grading results for each section taught by faculty members. NPS has

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<i>accomplishments for the previous year. Beyond these two mechanisms, are there additional systematic processes by which your department tracks faculty work and accomplishments? Please describe.</i>		recently purchased and is implementing a software tool (Digital Measures Activity Insight) which will allow for collection and reporting of faculty activities. GSBPP has established a policy on faculty qualifications to help ensure faculty members maintain appropriate scholarly and professional qualifications
	<b>IS</b>	We have a research newsletter that describes our faculty's research outputs over the year. It comes out once a quarter. (It is currently undergoing review by the professor that is in charge of the newsletter.) Other faculty research outputs serve as inputs to a variety of NPS wide publications including.
	<b>MA</b>	See above
	<b>MAE</b>	Chair reviews these reports. No.
	<b>MR</b>	We have no other systematic processes to gather information about faculty work or accomplishments. This is mostly done informally through discussion with the chair about how their research or teaching activities are going.
	<b>NSA</b>	Yes. Associate Chair for Research tracks completion of reimbursable research. Completed research is rewarded in the FAR process, highlighted in annual report, and appears on the Center on Contemporary Conflict website. Uncompleted projects are tracked and the Chair is notified when deadlines are past due. We also track faculty work through the semi-annual review of budget and labor plans to ensure that course load is adhered to. Chair tracks SOFS (Q12) and recognizes those who do well, and probes the reasons why some did not do well.
	<b>OC</b>	The Chair regularly tracks the teaching scores of the faculty members and holds an award ceremony for those who have taught with a score of 4.5 or higher. We also list the publications for the year for the dept.
	<b>OR/OA</b>	We find that current procedures provide quite detailed information for determining accomplishments.
	<b>PH</b>	No.
	<b>SE</b>	We solicit faculty accomplishments for our newsletter. Additionally, the chair keeps track of research projects and thesis students advised.
	<b>SPACE</b>	Not all faculty. For example, the SSAG has an "NRO Advisor" who is a contractor who teaches various courses, as well as advises NPS/NRO on research projects. His company, the Aerospace Corporation, has a yearly process of evaluating his performance and uses input from the SSAG Chair.
<b>5. FACULTY DEVELOPMENT:</b> <i>Please mention any other policies or processes, not mentioned above, that are practices in your department for supporting and</i>	<b>CS</b>	Senior faculty & research group heads actively assist junior faculty with developing research relationships. We encourage our faculty to be research active; the faculty currently cover about 40% of their salaries from reimbursable accounts. This enables us to maintain a robust NTT support structure for both teaching and research.
	<b>DA</b>	None.
	<b>ECE</b>	There are no other formal policies or processes.
	<b>GSBPP</b>	GSBPP has established a policy on teaching effectiveness, with a standing teaching effectiveness committee, to promote innovations and best practices in this area. GSBPP has also established a policy on assessing student learning, with a standing assessment committee, to help ensure good processes and practices for



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<i>assessing the success of your faculty.</i>		achievement of student learning objectives and program competencies. GSBPP encourages consultations with the NPS Director of Faculty Development. : GSBPP instituted funding lines for faculty development re research and teaching (primarily conference attendance). Institutionalized Guest Scholar Committee and supported with funding. Established routine research presentations to faculty colleagues.
	<b>IS</b>	We have conducted two surveys of prior students (as part of two student theses) in terms of the frequency of use of the knowledge obtained during their degree and/or certificate programs. Several changes to our curricula were made as a result of these surveys.
	<b>MA</b>	Classroom visits and interviews with students assist in evaluation of teaching. Faculty members with questionable SOF scores other indicators that improvement is required are encouraged to participate in the PETAL program. Mentors ensure that faculty members' research output is satisfactory.
	<b>MAE</b>	Discussions with chair and mentoring committee. None.
	<b>MR</b>	Regular Department meetings provide as sense of faculty expectations and workload as teaching plans and other activities are assigned by the chair. Informal discussion also occurs.
	<b>NSA</b>	The department has newly organized a regular faculty research colloquium to exchange ideas about faculty research. In addition, a monthly guest speaker series, Global Connections, brings to Monterey outside scholars to speak meet faculty and students and discuss their work. These help build an intellectual community.
	<b>OC</b>	We regularly have meetings of the tenured faculty to discuss our present faculty and our needs for future faculty.
	<b>OR/OA</b>	Every new faculty member must be reappointed at the three-year mark. This requires some level of review, which varies from department to department at NPS. We have made this review one of the most rigorous on campus, by doing what amounts to a full tenure evaluation, with the one exception of not asking for outside letters of recommendation. This warns us of any problems, and greatly simplifies the faculty member's actual tenure review at the six- or seven-year mark.
	<b>PH</b>	Quarterly RAP sessions are conducted with students to obtain direct feedback on faculty classroom performance. The results are collated and distributed to faculty. Faculty with significant deficiencies are directed to attend workshops or other similar activities to improve teaching effectiveness.
	<b>SE</b>	We encourage our faculty to work with Ali Rodgers on rounding out their teaching practices.
	<b>SPACE</b>	Attending conferences and workshops.



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EDUCATION PROGRAM REVIEW		
<p><b>6. CURRICULUM REVIEWS:</b></p> <p><i>NPS has a long-established process of formal, biennial curriculum reviews with sponsors. Beyond the formal curriculum review process, are your curricula reviewed (formally or informally) in consultation with curriculum sponsors or stakeholders?</i></p>	<b>CS</b>	Yes. Curriculum reviews are scheduled with the sponsor every 2 years. We have good relations with sponsors and strong support from the leadership of USN Cyber Command and the USMC. Sponsors take an active interest in curriculum & students.
	<b>DA</b>	Besides the formal curriculum review process, the department is constantly assessed by its sponsors through a myriad of sponsor visits and interactions throughout the year to include education councils, research reviews, and monthly SVTCs. The department has a SOCOM rep (primary sponsor) assigned to the department, as well as a USASOC officer assigned to the CORE Lab.
	<b>ECE</b>	None
	<b>GSBPP</b>	Various curriculum stakeholders visit NPS throughout during the year (e.g., for the annual Acquisition Research Symposium). It is typical that these visitors will receive briefings and meet with faculty and students and share views on curricular matters.
	<b>IS</b>	Our sponsor reviews cover all our curricula. We conduct periodic reviews of our curricula internally and periodically invite sponsors to visit and provide us with inputs and feedback on our curricula.
	<b>MA</b>	We have been trying for more than a decade to reacquire our Navy sponsor (USNA Superintendent), and things finally look promising. We send a visitor to USMA more or less annually to support the program we have whereby Army 03s come to us for the MS and return to USMA for a 3-year teaching tour. We now have Army Cyber Corps students as well. In all cases we respond to stakeholder input regarding curricular details.
	<b>MAE</b>	Every 2 yrs. A formal curriculum review is done with the sponsor and representatives. In our case, NAVSEA, Naval Reactors and NAVAIR are our sponsors.
	<b>MR</b>	Informal reviews of curriculum and courses are carried out through regular discussion with the Curriculum Officer who gathers student input through weekly meetings.
	<b>NSA</b>	The CHDS curriculum sponsor visits Monterey several times during the year for meetings and consultations on the curriculum. In addition, CHDS has in the past year conducted an extension review of all its programs, and begun a process to create a new type of advanced homeland security education program.
	<b>OC</b>	Our curricula are reviewed on average every 2 years. The process covers all of the degrees, curricula and programs. The Chair, Academic Associates, and the Program Officer regularly meet on a weekly basis to go over the curricula and programs. We are usually in consultation with our sponsors on a monthly basis.
	<b>OR/OA</b>	The Operations Research (OR) Department consists of four resident curricula: Operations Analysis-Energy (358), Operations Analysis (360), Joint Operational Logistics (361), Human Systems Integration (362); three distance learning (DL) curricula: Master of Human Systems Integration (359), Master of Systems Analysis (363), Master of Cost Estimation and Analysis (379); and three distance learning certificate programs: Human Systems Integration (262), System Analysis (281) and Cost Estimating and Analysis (289). The OR department and the Systems Engineering (SE) department jointly manage Systems Engineering Analysis (SEA) (308). These

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		curricula are reviewed every 2 years by their sponsor. The 362, 359, and 262 curricula were reviewed in Jan 2016; the 360, 363, and 281 were reviewed in March 2015; the 358 was reviewed in July 2015; the 361 was reviewed in May 2014; the 379 and 289 in April 2015; the 308 in November 2015.
	<b>PH</b>	Yes. We have biannual reviews with the curriculum sponsor.
	<b>SE</b>	We stay in contact with our stakeholders informally through embedded faculty at Pax River (311 and 312 program), through travel to sponsors (721 program with DASN RDA), and through informal contacts with 580 sponsor. Additionally, we have a quarterly newsletter for the department and a new website.
	<b>SPACE</b>	Formal curriculum reviews every two years with sponsors. Informal reviews as required. Sponsors are often involved with capstone projects and thesis research, and can express their desires in real time independent of the formal curriculum reviews.
<b>7. ACADEMIC REVIEWS:</b>  <i>NPS conducts a program of "Academic Program Reviews" (APRs), the purpose of which is to support and facilitate external "peer" review of NPS degree programs by qualified academics. Beyond APRs, does your department engage in any process, formal or informal, by which Academics external to your department have provided assessments or critiques of your programs?</i>	<b>CS</b>	CS hosted its last external academic visiting review committee in September 2007. The MOVES curriculum has an advisory committee that meets once a year. The cyber systems faculty achieved early recognition as an NSA center of excellence many years ago when NSA started their rating program; recently the NSA recertified and upgraded its rating of the cyber program.
	<b>DA</b>	Besides the APRs, we have conducted IPAs with faculty from other institutions who have provided feedback during their IPA tenure. Department faculty often times collaborate on research projects with faculty from other top-tier institutions like Stanford and Penn State. The quality of faculty research is measured by department publications in peer-reviewed journals, books published by leading publishers, and presentations at leading academic conferences.
	<b>ECE</b>	The MSEE Degree Program is ABET accredited and is therefore subject to external review every six years. The rigor of the ABET review far exceeds that of a typical "peer" review. Visit <a href="http://www.nps.edu/academics/GSEAS/ece/AboutECE/Accreditation.html">http://www.nps.edu/academics/GSEAS/ece/AboutECE/Accreditation.html</a> .
	<b>GSBPP</b>	GSBPP undergoes accreditation reviews by AACSB and NASPAA.
	<b>IS</b>	We intend to invite members of peer institutions to review our programs. However, due to the rather unique nature of some of our curricula, it has been a challenge to find peers from similar programs in other universities. We have a roster of potential reviewers to provide external input for our department APR program.
	<b>MA</b>	Our most recent APR took place in 2010. We look forward to the next.
	<b>MAE</b>	WE follow all the guidelines of ABET in gaining accreditation for our MSME and MSAstroE degrees.
	<b>MR</b>	Curriculum sponsor staff visit periodically and provide informal feedback and gather input from students. Department chair attend biennial Meteorology Dept. Heads and Chairs meeting to learn about other best practices and can gather informal comparison between our program and others.
	<b>NSA</b>	CHDS has a very active program of liaison with other universities and other institutions involved in homeland security higher education, and sponsors annual conferences at which best practices and new ideas in homeland security education are discussed.

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	<b>OC</b>	WE last had an external review in the late 1980's which was a very valuable experience. We had external observers which provided valuable feedback and helped to place us in a more national context.
	<b>OR/OA</b>	We are conducting an APR during 2016.
	<b>PH</b>	No.
	<b>SE</b>	No.
	<b>SPACE</b>	An Academic Program Review (APR) was conducted October 28-29, 2014. Results of this APR are available in the GSEAS office. No additional process, other than informal consultations with curricula sponsors, is in place.
<b>8. INTERNAL REVIEWS:</b> Do you also have periodic or ad hoc procedures for reviewing and adjusting the contents of your curricula internally, e.g. during annual course planning? If so please describe.	<b>CS</b>	Yes. Our curriculum committee meets regularly to discuss curriculum issues, bring issues to the full faculty for discussion or action, and interfaces with the curriculum sponsors and NPS academic council. A portion of every monthly faculty meeting is devoted to curriculum issues; these discussions often lead to new actions by the curriculum committee. The curriculum committee sponsored a student focus group that gave us concrete suggestions for revising our matrix in light of a new willingness of the USN sponsor to send students for 21 months instead of 18.
	<b>DA</b>	Yes, The Department uses several mechanisms to adjust curricula content. Examples are: student after action reports, sponsor reviews and updated requirements, and faculty discussions at monthly faculty meetings and at the annual off-site. Maintaining flexibility to respond to our sponsors is critical to the success of the program.
	<b>ECE</b>	ABET accreditation requires the ECE Department to define Program Educational Objectives (PEO) & Student Outcomes (SO), to implement assessment tools and to maintain a process for continuous improvement. Thus, we have a well-defined and well-documented process for internal review of the MSEE Degree Program, curriculum and courses. Visit <a href="http://www.nps.edu/academics/GSEAS/ece/AboutECE/Accreditation.html">http://www.nps.edu/academics/GSEAS/ece/AboutECE/Accreditation.html</a> .
	<b>GSBPP</b>	These reviews are conducted as part of GSBPP's assessment of student learning activities, in which periodic assessments form the basis for continuous improvement of courses and curricula. GSBPP has a formal policy and processes for these activities.
	<b>IS</b>	We have curricula review meetings periodically and use student (via the exit interviews) and sponsor inputs to modify our program content and class sequencing. The department chair meets periodically with individual faculty to discuss possible changes and enhancements to our curricula and degree programs.
	<b>MA</b>	We periodically ask those departments who depend on our service courses to provide feedback on our effectiveness in meeting their needs, and this feedback helps us calibrate those courses. Both the curriculum reviews and the APRs provide guidance for tuning the courses comprised in the degree program.
	<b>MAE</b>	Mostly done by faculty groups responsible for the courses.
	<b>MR</b>	Adhoc meeting of faculty to review specific courses or sets of courses when dictated by feedback from students or faculty.
	<b>NSA</b>	Each spring the NSA department, in connection with planning the next year's course offerings, reviews all of the courses planned, and

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		adjusts as necessary. The department is also currently reviewing the requirements for each curriculum (such as the sub-Saharan Africa track), as new faculty hires have changed the courses available to students in various curricula. The CHDS internal review referred to in number 6 above, known as “revisioning CHDS,” has reviewed all CHDS educational programs (master’s and executive programs).
	OC	We make sure that the contents of our curricula are adjusted to be as current as possible. We also make sure that the courses have been successfully taught and, if not, make adjustments to ensure that content is well delivered.
	OR/OA	There is no formal internal review, The Biennial review suffices here
	PH	Yes, during our quarterly RAP sessions with students.
	SE	Yes. We have stood up a curriculum committee, which has reviewed the curriculum, works with the Program Officer and recommends changes to the curriculum. Additionally, we review course journals as part of a continuous improvement process.
	SPACE	Ad hoc procedure during regularly held SSAG meetings.
9. DEPARTMENT CURRICULUM COMMITTEE: <i>Does your department have an acknowledged curriculum committee (or analogous group) whose purpose includes the review and/or initiation of academic programs or curricula?</i>	CS	Yes. Our curriculum committee is very active and has a great track record with the sponsors. See also #8.
	DA	No. Each curriculum is managed by an Academic Associate. However, once a year at the department offsite, curriculum changes/improvements are discussed as a faculty. Ad hoc, changes to curriculum are brought up to the Academic Associates and/or chair by individual faculty working specific projects for our sponsors.
	ECE	Electrical & computer engineering is a field where technology evolves rapidly. Scientific advances continually spawn new technology and the typical life cycle for a technology is 3-5 years. S&T is continually tracked by the faculty and when appropriate, new courses are developed in those areas of expertise we cover. Courses in more mature areas may be dropped or consolidated. The ECE Department has a Curriculum Committee as well as Technical Area Groups (TAGs). New course proposals are generated by TAGs and reviewed by the Curriculum Committee before being sent forward to the Academic Council for approval. TAGs are also responsible for the content of specialty tracks in the MSEE curriculum.
	GSBPP	GSBPP has a Faculty Instruction Committee, which has a formal charter for review and/or initiation of academic programs or curricula.
	IS	Yes. It consists of the academic associates, the program officer(s), the associate chairs, and the chair.
	MA	Yes. Our course & curriculum committee reviews all proposed changes to degree requirements and/or the Applied Math curriculum. New courses might be developed, given resident expertise in the subject matter, student demand, and Academic Council approval.
	MAE	New Curricula for resident students is not feasible. WE have introduced new DL programs as requested by Naval Reactors for example.
	MR	Academic Associate and Department Chair are the curriculum committee that maintains course documentation of learning objectives, syllabi, and course materials. They are also tasked to conduct periodic reviews (annual) of course content.

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	<b>NSA</b>	The department has an Associate Chair for Instruction and a team of Academic Associates. They are not a committee, per se, but they are individually and collectively responsible for curriculum decisions, usually in consultation with pertinent faculty.
	<b>OC</b>	When a course is wanted by the sponsor, a curriculum committee (i.e., the Chair, the Academic Associate, and others expert in the course field) try to find the best person possible to teach the course. We 3 work closely together to come up with the course material and what will be sent up to the Academic Council for review.
	<b>OR/OA</b>	Curricula and new courses are developed through feedback from sponsors, students, and other stakeholders, All new courses and curricula are approved by the NPS Academic Counsel
	<b>PH</b>	Yes, we have a DL program committee that evaluates opportunities for new DL programs or new customers for existing programs. We also have a resident curriculum committee made up of the Chair, Assoc Chair for Instruction, and Curriculum Officer that meet bi-weekly to review curricular issues.
	<b>SE</b>	Yes.
	<b>SPACE</b>	Not a standing committee. If issues arise concerning curriculum content (usually out of curriculum reviews), the SSAG Chair forms an action group of 2 to 3 members that are tasked with developing a new course or proposing recommendations on how to proceed.
<p><b>10. PROGRAM QUALITY DATA:</b></p> <p><i>Apart from institution-level assessment processes (curriculum reviews, SOFs, capstone assessments) does your department regularly collect information (from students, alumni, faculty, sponsors, visitors, etc.) for the purpose of monitoring program quality? If so, please describe. How is this information used to validate or improve current programs?</i></p>	<b>CS</b>	Yes. The program officer keeps in touch with every student and keeps the faculty informed of any developing issues needing their attention. The program officer has an exit interview with each graduating student. The chair and program officer meet with incoming students to answer their questions about the program and selecting their thesis topics. From time to time the department chair aggregates & anonymizes SOF data for faculty examination at faculty meetings in an effort to identify broad trends, permit self-comparison, and assist faculty who seek to improve SOF scores.
	<b>DA</b>	Yes. The department has a formal process for soliciting feedback from the students. The process allows for two opportunities that students can provide feedback in a formal setting...mid-course and end-of-course. This process is supplemented by an active open door policy between the students, the chair, the program officer, and the faculty. The sponsor also has day-to-day visibility of the programs through their O-6 liaison. We also collect regular feedback from the myriad of DVs who visit the department and interact with our students and faculty.
	<b>ECE</b>	As part of the ABET accreditation process, ECE is required to collect data and feedback from students, alumni, and sponsors as part of our ongoing assessment of PEOs and SOs, including an out brief with all graduating students each quarter.
	<b>GSBPP</b>	GSBPP's assessment of student learning activities form the basis for continuous improvement of courses and curricula. GSBPP has a formal policy and processes for these activities. GSBPP also administers both entrance and exit surveys to students for the purpose of assessing attainment of learning objectives and program competencies.
	<b>IS</b>	We have student exit interviews, as described in item 3 above. We use feedback from our student exit interviews to make adjustments



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		to our curricula, lab facilities, and faculty. We have recently enhanced our networking lab facilities to meet the changing needs of our networking classes.
	<b>MA</b>	We stay in touch with our former students, so we have feedback from them. We also stay in touch with our students' sponsors (USMA and Army Cyber, and to a lesser extent USCG HQ) to ensure that we are providing the right education for their needs.
	<b>MAE</b>	Yes. We collect thesis quality evaluations, student performance evaluations by follow on commands, and employer evaluations after 5 years.
	<b>MR</b>	METOC students surveys are done of graduates to gain feedback on value of courses and preparation for follow-on jobs. This is done biennially and used primarily as part of Curriculum review process.
	<b>NSA</b>	In addition to the intensive post-course evaluations that CHDS administers in addition to the SOFs (described below), CHDS also regularly surveys departing students on the quality and effectiveness of their programs, and also conducts surveys of alumni occasionally to learn about the long-term value of the programs. These surveys directly influenced the current effort at CHDS to develop a new advanced homeland security curriculum, informally referred to as "69X."
	<b>OC</b>	We regularly have a Teaching Committee that will go into the classroom and see how the instructor is doing. We also ask students to comment on a faculty member. This information is used to improve current programs and to make learning more effective.
	<b>OR/OA</b>	Students who are in the last quarter of the resident programs are offered the opportunity to fill out a questionnaire which is used as feedback to respond to the student needs and desires. One of our sponsors, N81, has also surveyed active duty graduates both resident and DL to assess program validity in March 2015. In the OR resident programs the OR chair and the program officers meet several times a year with student section leaders to gather feedback on course material and instruction. In our Systems Engineering Analysis program all students meet with the academic associate and program officer quarterly to assess course material and instructors. Feedback is provide to the OR, SE, and SEA Chairs
	<b>PH</b>	Yes, during our quarterly RAP sessions with students. The feedback is provided back to the faculty for improvements, or incorporated into curriculum data for future curricular reviews.
	<b>SE</b>	The academic associate and program officer meet with students quarterly and solicit feedback. The information is used by the chair to guide curriculum changes, work with faculty, and other actions depending on the feedback.
	<b>SPACE</b>	Information is collected from sponsors and from student exit surveys. Exit surveys are used to evaluate course content and determine if changes are needed. One outcome was the removal of two EE courses and their replacement with a Space systems specific communications fundamentals course. Student feedback felt that the EE courses did not adequately address Space issues.
<b>11. PROGRAM</b>	<b>CS</b>	Yes. We are not CSAB accredited because CSAB accredits graduate programs only when there is also an undergraduate program. Our department was ranked 72 in the USNWR ratings of

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<p><b>RATINGS:</b></p> <p><i>Program ratings exist in various forms. There are program or school ratings that exist in the popular press (e.g., US News). Some professional societies assess and rate programs in their discipline. On occasion academic research studies conduct assessments or rating of schools or programs. Do you know of external assessments or ratings that are applicable to your department or programs? Please mention.</i></p>		2012-2015, which was a pleasant surprise since our masters program is not open to the general student public. As noted earlier, our cyber curriculum is recognized by the NSA as a center of excellence. Several Information Assurance courses are accredited by the Committee on National Security Systems (CNSS) for awarding National Security Telecommunications and Information Systems Security Committee (NSTISSC) certificates upon completion.
	<b>DA</b>	Quote from our last APR: "An outstanding teaching and research unit providing a unique and cutting-edge education . . . No civilian or military entity even begins to compete with it." -- Academic Program Reviewers (from Princeton, Stanford, NWC). However, there are no official/popular press ratings that we know of.
	<b>ECE</b>	There are no known external ratings of our programs. However, the level of success achieved during the ABET accreditation process can be used as an ad hoc metric of program quality as we are rated on each of the ABET program criteria. The finding can be "deficiency", "weakness" or "concern".
	<b>GSBPP</b>	GSBPP has been rated in the top 50 among schools of Public Affairs by US News & World Report in past years.
	<b>IS</b>	We have been included in ratings of programs in the information systems field in the past (we were within the top 10 rankings in the country while these rankings were in existence). Currently, there have been no formal program rankings in our fields within the last 10 years. However, as evidence of the quality of our faculty, one member recently assumed a tenured position at Cambridge University in Great Britain (one of the top universities in the world).
	<b>MA</b>	In 1995, the American Mathematical Society (AMS) reviewed mathematics departments nationwide. That assessment is the most recent I know of, and it does not "rank" NPS, but mentions it as having a viable PhD program of study. It does rank 48 public & private schools as Group I (highest rank) and 56 schools in Group II. NPS is in Group III. (From 2008 Survey)
	<b>MAE</b>	ABET
	<b>MR</b>	None of our knowledge.
	<b>NSA</b>	CHDS, through its University and Agency Partnership Initiative (UAPI), has recently conducted a survey of alumni and other subject matter experts to determine the top ranked higher education programs in homeland security. CHDS also sponsored a workshop of homeland security educators to develop a model homeland security graduate program, which has been used to support CHDS program revisions and the CHDS curriculum review.
	<b>OC</b>	None for our specialized physical oceanography emphasis. There are national assessments of oceanography which includes bio, chem, and go. Components as well as physical oceanography.
	<b>OR/OA</b>	The Operations Research department was awarded the Institute for Operations Research and the Management Sciences (INFORMS, the largest operations research society in the world) 2013 UPS George D. Smith Prize for effective and innovative preparation of students to be good practitioners of operations research and management science, or analytics. There have been periodic ranking of universities according to their contributions to the INFORMS practice literature, (Fricker, R. D. 2013. "Editorial: the 10 <sup>th</sup>

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		Rothkopf rankings of universities' contributions for the INFORMS practice literature"). Of over 40 U.S. universities covered, NPS-OR was ranked number two behind Georgia Tech for visibility and number one for yield.
	PH	None.
	SE	Yes. The Systems Engineering department has been rated by the US News and World Report and has been in the top 20-25 graduate level programs in the category of Industrial, Manufacturing, and Systems Engineering. Additionally, a National Research Council report mentioned the NPS Systems Engineering department as being know for the quality of the distance learning program delivery.
	SPACE	No.
<b>STUDENT LEARNING</b>		
<b>12. LEARNING OUTCOMES:</b>  <i>ESRs represent one form of program learning outcomes. Apart from ESRs, does your department have written learning outcomes for its degree programs? If so, please note the source (e.g., the requirements of external professional licensing or certification organizations)?</i>	CS	Our ESRs are our primary statement of learning objectives for the curriculum as a whole. We have no supplementary statements of learning objectives. All individual instructors state learning objectives within their courses.
	DA	The department relies on ESRs negotiated with the sponsors.
	ECE	Yes, Program Educational Objectives and Student Outcomes are published on the ECE website, <a href="http://www.nps.edu/academics/GSEAS/ece/AboutECE/Accreditation.html">http://www.nps.edu/academics/GSEAS/ece/AboutECE/Accreditation.html</a> .
	GSBPP	Each degree program has a set of competencies adopted by the faculty, which support ESRs. Course objectives are developed to support ESRs and program competencies. Acquisition courses have objectives related to attainment of Defense Acquisition Workforce Improvement Act (DAWIA) competencies.
	IS	These are stated in the individual course learning objectives. There are general program descriptions which have implied learning outcomes in the online NPS catalog.
	MA	Our program descriptions (PhD, MS, dual degree, PhD minor) implicitly describe program learning outcomes. The creation of explicit learning outcome documents might well be worthwhile. There are no requirements mandated by external organizations.
	MAE	No
	MR	All courses have a written list of course objectives. These are being restated in terms of learning outcomes as courses undergo review over time. The overall learning outcomes are primarily recorded in the ESR's. There is no external requirement to have learning outcomes recorded for courses.
	NSA	Each course has a statement about its overall objectives. All courses are required to have formal learning outcomes, expressed in the syllabus, and the importance of learning outcomes has been discussed in department faculty meetings.
	OC	Each course has specific learning outcomes that the Instructor emphasized. In the school catalog there is a written learning outcome listed for each degree and curriculum. There are no professional licensing or certification programs in oceanography.
	OR/OA	No
	PH	No
	SE	Each curriculum has a set of ESRs; we do not have unique ones for the degree. WE are designed to meet ABET, INCOSE, and SPRDE



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		qualifications.
	<b>SPACE</b>	No.
<b>13. OUTCOMES ASSESSMENT:</b>  <i>Does your department have written procedures for determining if students have achieved program learning outcomes? If so, briefly describe.</i>	<b>CS</b>	Yes. Our graduation checklist, completed by each student, records how the student met the ESR objectives. These data are reviewed by the sponsors.
	<b>DA</b>	No. However, the thesis/capstone process allows for an informal review of learning outcomes.
	<b>ECE</b>	Yes, Student Outcomes are assessed using a variety of assessment tools. Visit <a href="http://www.nps.edu/academics/GSEAS/ece/AboutECE/Accreditation.html">http://www.nps.edu/academics/GSEAS/ece/AboutECE/Accreditation.html</a>
	<b>GSBPP</b>	GSBPP's assessment of student learning activities form the basis for continuous improvement of courses and curricula. GSBPP has a formal policy and processes for documenting these activities.
	<b>IS</b>	We have conducted two studies of our past graduates. These studies were designed to assess knowledge obtained in from our programs that were in use (i.e., daily, weekly, monthly, yearly) by our graduates as well as students perceptions of the value of the knowledge in their respective careers.
	<b>MA</b>	The Academic Associate tracks completion of required courses. Every thesis (or dissertation) written in fulfillment of the requirement for the Applied Mathematics MS (PhD) degree has at least one advisor from the Applied Mathematics department; the advisor's signature certifies that the program learning outcomes have been achieved.
	<b>MAE</b>	Program and degree objectives are set up and appear on our web site.
	<b>MR</b>	Informal assessment is done in student exit interviews when they are graduating. Only formal assessment is individual course grading.
	<b>NSA</b>	No
	<b>OC</b>	A student's outcome of determining if they have achieved the learning outcomes is shown by their success or not in the next course in their sequence. If they are not succeeding in their next course, we try to find out why and remedy the situation. The thesis is the final test of whether the student has achieved the learning outcomes as the thesis should be stressing problem solving as well a deep grasp of what they have been taught.
	<b>OR/OA</b>	No
	<b>PH</b>	No
	<b>SE</b>	Yes. We do thesis and capstone project evaluations, maintained by the chair. The course coordinators also review the course journals on a set schedule for outcome assessment.
	<b>SPACE</b>	No.
<b>14. TEACHING EFFECTIVENESS:</b>  <i>The NPS SOF process provides one indicator of teaching</i>	<b>CS</b>	Yes. Chair reviews SOF data and interviews any faculty member appearing to have difficulties. Several faculty have been referred to the PETAL office to assist them at identifying and correcting the reasons for their low ratings; that has been very effective. Chair encourages these faculty to consult with the award winning teachers in the department for tips and guidance and to visit their sections.
	<b>DA</b>	In addition to SOFs, classroom visits, SOF Chair and SSS Fellows

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<p><i>effectiveness. Beyond the SOFs, does your department engage in any systematic practices designed to appraise and/or improve teaching? (Examples might include classroom visits, review of course syllabi, peer review of teaching by colleagues, student surveys, etc.). Please describe.</i></p>		observations, and student "after action/graduation" and "mid program" meetings also provide sources of review.
	<b>ECE</b>	Yes, teaching effectiveness is assessed through classroom visits, individual student interviews, group exit interviews with graduating students, review of syllabi and review of theses.
	<b>GSBPP</b>	GSBPP has established a policy on teaching effectiveness, with a standing teaching effectiveness committee, to promote innovations and best practices in this area. The emphasis of this policy is on promoting collegial peer reviews of teaching. GSBPP encourages consultations with the NPS Director of Faculty Development.
	<b>IS</b>	We conduct class room visits for tenure track and lecturer track faculty prior to their assessment for promotion or tenure. We make extensive use of the graduating student exit interview responses to evaluate faculty performance. The focus group responses are often used to suggest ways that under-performing faculty can improve.
	<b>MA</b>	With student interviews replacing student surveys, all of the practices in parentheses at left are used, especially in evaluating faculty members below the rank of Professor.
	<b>MAE</b>	Outcomes are assessed by students and employers and are all part of the ABET process.
	<b>MR</b>	Classroom visits and discussion with students are done during the promotion process for faculty. Course syllabi and other materials are formally reviewed during the curriculum review process. Informal feedback is given to faculty by the Dept. Chair when courses are reviewed by the Curriculum Committee.
	<b>NSA</b>	Classroom visits are used, such as part of the tenure process, but also for individual faculty when they need assistance. Department is instituting an educational effectiveness survey, which will be used to survey graduating students each quarter to gather information about program effectiveness and student feedback
	<b>OC</b>	Yes, classroom visits, talking to students, asking instructor to share written comments by students so the Chair can work with the instructor to improve. Improvements have included sending the Instructor to outstanding instructors to observe their teaching effectiveness and sending them to special teaching seminars, if offered. The Chair also looks at the course syllabi and discusses possible improvements that the Instructor could make.
	<b>OR/OA</b>	We do send senior faculty in for classroom visits, The information gathered is primarily for use in the PPT process, in addition to SOFs. As mentioned above, in our SEA (308) program, the academic associate and program officer meet quarterly with all SEA students for oral feedback on each course and instructor in addition to their regular SOF. These results are recorded and provided to the OR, SE, and SEA Chair.
	<b>PH</b>	Yes, during our quarterly RAP sessions with students. The feedback is provided back to the faculty for improvements.
	<b>SE</b>	Yes. We have classroom visits and peer review of teaching materials.
	<b>SPACE</b>	Student surveys.
<b>15. STUDENT</b>	<b>CS</b>	Yes. Student evaluations are integral to curriculum reviews. The review committee meets with students and reviews data about student success or areas of difficulty. Two years ago we hosted a

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<b>FEEDBACK:</b>  <i>Please describe formal or informal mechanisms within your department designed to capture student feedback concerning their experience in their graduate program. (Examples might include student interviews either during the program or upon graduation, periodic student surveys, meetings with academic associates or program officers, etc.)</i>		student focus group (about a dozen students from all parts of our curriculum and pipeline) to make an appraisal of our curriculum and offer suggestions in advance of a revision of matrix. That was extremely valuable. Our program officer and academic associate hold a new-student orientation every other quarter to help set understanding about what is expected of them.
	<b>DA</b>	As mentioned several times earlier, there are two formal meetings with students for the intent of gathering feedback. Meetings are scheduled strategically to capture the student's thoughts and experiences through the entire program. Many faculty also use critique sheets at the end of the course to capture information not found on the SOF. Informal feedback is provided through the "open door" policy. We do periodic student surveys before the curriculum reviews.
	<b>ECE</b>	Student feedback is obtained through our QA process which includes quarterly graduating student group exit interviews conducted by our Program Officer and Academic Associate. Students are also able to provide feedback at any time through their Program Officer or Academic Associate.
	<b>GSBPP</b>	GSBPP administers both entrance and exit surveys to students for the purpose of assessing attainment of learning objectives and program competencies. Faculty conduct periodic "How's it going?" meetings with students.
	<b>IS</b>	The exit interviews are one of the primary means for obtaining student feedback in addition to the SOF scores. Students often provide informal feedback to academic associates.
	<b>MA</b>	We rely on informal student interviews to some extent. We rely more on input from alumni.
	<b>MAE</b>	As needed for PPT actions.
	<b>MR</b>	Exit interviews and regular meetings between the students and curriculum officer provide regular feedback. Students are encouraged and generally freely give informal feedback to individual faculty.
	<b>NSA</b>	Graduation feedback sessions with Associate Chair and program officer; graduation survey (described above in number 14).
	<b>OC</b>	We have student orientations, we have regularly scheduled meetings with different sections to discuss how they are doing and how we can help them to do better, we have exit interviews called debriefs. These meetings usually include the Chair, the Program Officer and the Academic Associates.
	<b>OR/OA</b>	The SOF process provides quarterly feedback. Graduating resident students are invited to fill out an exit questionnaire to provide student feedback. In the OR resident programs the OR chair and the program officers meet several times a year with student section leaders to obtain feedback on course material and instruction. In the DL curricula, feedback is solicited during the final capstone course. As mentioned above, in our SEA program the academic associate and program officer meet quarterly with all SEA students for oral feedback on each course and instructor. These results are recorded and provided to the OR, SE, and SEA Chair.
	<b>PH</b>	Yes, during our quarterly RAP sessions with students. The feedback is provided back to the faculty for improvements.
	<b>SE</b>	Student interviews each quarter and an exit interview upon

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		graduation.
	SPACE	Meetings with students by the program officer and the Academic Associates.
<p><b>16. COURSE JOURNALS:</b></p> <p><i>A "Course Journal" refers to an organized collection of course materials (e.g., course outline, syllabus, schedule, list of assignments) assembled at the completion of a course that provides a record of the course as taught. Are Course Journals, or other similar sets of course records, submitted and maintained in your department, and used for assessment?</i></p>	CS	No. This is not a departmental practice. Some faculty do it at their option.
	DA	Course journals are not used, but syllabi are collected and maintained by the dept.
	ECE	A course journal is required for each course taught. Course journals are uploaded to the ECE Sharepoint site and used as part of the ABET accreditation process
	GSBPP	GSBPP has a formal policy for course journals. Additionally, documentation is collected as part of the assessment of student learning process.
	IS	We use several general formats to create course journals. Since the introduction of Blackboard and Elluminate, the contents of residential and DL courses are represented on this medium, and this has served as our course journals.
	MA	For many years, we kept paper journals. At present, all of the course materials mentioned at left are kept by the faculty members and are made available to colleagues. There is growing support for a return to the use of a central digital repository for these.
	MAE	We have an exit questionnaire to be completed by all graduating students.
	MR	Course journals are not formally maintained by the department but all faculty maintains files of course material used in previous course offerings.
	NSA	We don't call them course journals, but each course has a syllabus, a set of required and recommended readings, and a set of assignments and/or assessments that are documented. The vast majority of these documents is loaded on Sakai and can be retrieved upon request.
	OC	Most professors have their course journal available electronically and readily make the material available to us when asked for. The instructor always has the last set of teaching materials available for our perusal should we want to look at it.
	OR/OA	Yes
	PH	Course journals were at one time maintained in the department, but rarely used.
	SE	Yes. We maintain them on a shared drive accessible to all faculty.
	SPACE	No. Course journals are maintained individually by instructors.
<p><b>17. THESIS/ CAPSTONE ASSESSMENT:</b></p> <p><i>NPS conducts the institutional process of capstone assessment. Does</i></p>	CS	This process has shown that our faculty are generally satisfied with the quality of student theses. Many faculty are now asking their students to attend workshops at the Graduate Writing Center, which has been very helpful with improving the quality of written theses.
	DA	Yes, the department uses an institutional capstone assessment process, the results of which are briefed to the chair and faculty. The data identifies areas for improvement and special emphasis.
	ECE	Yes, the results are used as one component of our ABET accreditation effort for continual improvement. In addition, each thesis must be reviewed and approved by the Thesis Advisor, the

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<i>your department use the results for improvement of your academic programs? How is the quality of theses or capstone projects ensured? Please describe.</i>		Thesis co-advisor/2 <sup>nd</sup> reader, and the ECE Chair. The Chair serves as the final arbiter of quality control, ensuring that all theses meet a minimum standard with respect to both technical content and grammar and punctuation.
	<b>GSBPP</b>	Individual advisors are responsible for ensuring the quality of capstone events.
	<b>IS</b>	Thesis quality is monitored primarily by the thesis advisors and second readers. The Associate Chair for residential education also provides a quality control review for theses. Theses that are supported by external sponsors most often include formal presentations for those sponsors at the conclusion of the thesis work.
	<b>MA</b>	At least three members of the Department of Applied Mathematics (Advisor, Second Reader, and Department Chair) sign every thesis. PhD dissertations are subjected to even more scrutiny.
	<b>MAE</b>	Every quarter
	<b>MR</b>	Not use to improve academics or program as other measures provide more useful feedback. Dept. Chair reads all theses and does provide feedback to faculty if standards are not met. Thesis presentations provide opportunities for faculty to hold colleagues to appropriate standards of quality.
	<b>NSA</b>	The CHDS master's program, curriculum 692, concludes with a Capstone course, which is designed to capture lessons concerning student theses as well as the rest of the program. The NSA department has recently revised and made more rigorous its process through which students develop thesis proposals, and revised its tracking process for ensuring students are able to finish on time. CHDS has a unique "thesis dashboard" system by which student thesis progress is monitored.
	<b>OC</b>	The chair has been systematically meeting with students to get the students on the road to thesis success. We make it clear to them that they have to turn in a thesis proposal at the beginning of their first quarter of the 3 quarters they take to do a thesis the proposal is an in-depth document that talks about the topic, the background, what tools are being used, the timetable, the naval relevance and as complete a bibliography as possible. The Ed Tech keeps all of these documents.
	<b>OR/OA</b>	As part of the NPS institutional process of capstone assessment, OR has implemented department-specific assessment standards. The same standards apply to both theses for resident students and capstone projects for distance learning students. <u>Theses</u> . Every resident student except those in the SEA curriculum must complete a thesis. The thesis is reviewed for quality by one or more advisors, a second reader and the department chair or his/her representative. All readers must have master's degrees. One of either the advisor or second reader must have a PhD. One of either the advisor or second reader must be a member of the OR department. The chair or his/her representative must have a PhD and must be a member of the OR department. The resident SEA curriculum students complete a capstone project. The capstone projects are reviewed by an operations research faculty advisor, a systems engineering faculty advisor, the Systems Engineering Analysis Chair, the Chair of Operations Research, and the Chair of

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		Systems Engineering. In addition, SEA students must brief their final project to faculty from both departments for oral feedback and assessment and finally to the actual off-campus sponsors of the project. <u>Capstone Projects.</u> DL students complete capstone projects. Capstone projects are reviewed for quality by a designated Capstone Project Assessment team which includes the project advisor, capstone project course instructor, capstone project course sequence coordinator, curriculum Program Officer, and the Operations Research Department chair or representative. The chair or his/her representative must have a PhD and must be a member of the Operations Research Department.
	PH	No, the department does not utilize the data collected from the capstone assessments. All students in our primary curriculum must give an oral presentation of their thesis. All theses are reviewed in detail by the department Chair. Theses that are not of sufficient quality are not approved by the Chair.
	SE	Yes. The chair reviews each thesis.
	SPACE	Chair reads all theses.
<b>18. OTHER THESIS/CAPSTONE ASSESSMENT:</b>  <i>Beyond the institutional capstone assessment process, does your department have a systematic process that evaluates the quality and competencies demonstrated in theses or capstones? Please explain.</i>	CS	Each quarter our PO and AA convene a small committee to select theses for being marked as "theses of distinction" and for dept awards.
	DA	Yes. The thesis process allows for several important reviews beginning with the first reader, supplemented by the 2nd reader. A committee reviews the theses in order to determine the award of "Outstanding Thesis." Lastly, the department chair reads and signs off all department theses.
	ECE	No, the institutional capstone assessment process has supplanted the process previously used by the department to evaluate the quality of theses.
	GSBPP	No.
	IS	The thesis process is also discussed in the student exit interviews in order to provide feedback to relevant parties in the thesis process.
	MA	No
	MAE	All theses are assessed for quality and rated by the advising professor.
	MR	No systematic process.
	NSA	The NSA department and CHDS have separate but parallel thesis award processes that are designed to evaluate the quality of theses and recognize top performers.
	OC	SOFs are used for DL. We find that our instructors have to make constant contact with the students to help evaluate their learning outcome. Otherwise, there is a tendency for the student to drift away from the program.
	OR/OA	Yes. <u>Theses.</u> Beyond the institutional capstone assessment process, the Operations Research Department uses "intent to publish" and/or "qualified for award competition" as criteria for top quality theses. Recurring award competition includes a department level review panel and finalist nominations. Competition panel of judges includes Operations Research faculty and distinguished outside guest judges.

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		<u>Capstone Projects</u> . Beyond the Operations Research Department Capstone Assessment, the SEA and DL curricula use a systematic process to evaluate quality and competencies demonstrated in the capstone project. The process includes multiple stages of grading (project proposals, in-progress reviews, final presentations and final report). Each stage has established standards for content and progress. Grades are based on an established curriculum capstone project Assessment Criteria (rubric).
	PH	All students in our primary curriculum must give an oral presentation of their thesis. All theses are reviewed in detail by the department Chair. Theses that are not of sufficient quality are not approved by the Chair.
	SE	Yes, the chair reviews each thesis.
	SPACE	Capstone course projects are evaluated by SSAG faculty and external experts from industry, government and academia, invited to presentations given by students at NPS.
<b>19. DISTANCE LEARNING ASSESSMENT:</b>  <i>Is the process of evaluating student learning different for resident versus distance programs? If so, please describe how.</i>	CS	No. Same course content, same grading standards. This is a standing policy for CS DL courses. DL courses are generally delivered by faculty, which also teach the courses to resident students.
	DA	This department does not use distance learning.
	ECE	Non-resident (DL) students are held to the same standards as resident students. The assessment process is the same.
	GSBPP	No, the same for resident and distance programs.
	IS	We follow the same processes in the DL class assessments as we do with the residential class assessments. Based on student feedback the Department Chair makes decisions about retaining lecturers and professors for the courses. Due to budget cuts we no longer able to offer a DL program in our department.
	MA	We have no distance programs, so we have only our resident program evaluation process. We do have one distance course that is taught twice every year, and SOFs are collected for that course.
	MAE	SOF forms are used - usually 1 point lower than resident students in same class.
	MR	Not Applicable as we offer no distance learning courses.
	NSA	The Center for Homeland Defense and Security (CHDS) master's program is hybrid, combining intensive in-residence with distance learning. CHDS has developed an intensive assessment program, involving student surveys at the end of each course, and at the end of the program.
	OC	No
	OR/OA	There is no major difference. In both cases students take exams or submit projects for course assessment. The resident students submit an individual thesis, whereas the DL students work together on a major capstone project
	PH	No
	SE	No, other than all DL lectures are recorded so more data is available, but the process is the same.
	SPACE	Mostly the same. DL tests are more essay style.